

**SYSTEM AND METHOD FOR PROVIDING AN IMPROVED CHANNEL
ENCODER IN A DIGITAL DATA COMMUNICATIONS SYSTEM**

ABSTRACT OF THE DISCLOSURE

5 A system and method is disclosed for providing an improved channel encoder in a digital data communication system. In one advantageous embodiment the invention comprises a channel encoder that comprises a first Turbo encoder, an interleaver, and a second 10 Turbo encoder. Data from a source encoder is Turbo encoded in the first Turbo encoder, then interleaved, and then Turbo encoded in the second Turbo encoder. The data is then punctured and repeated in a symbol puncture and repetition unit. In an alternate advantageous embodiment of the invention, the first and second 15 Turbo encoders are coupled in parallel. The data provided to one of the Turbo encoders is interleaved. The outputs of the first and second Turbo encoders are multiplexed and the result is provided to the symbol puncture and repetition unit. The invention provides low packet error rates when higher RF modulation is used.